

**REMARKS**

Claims 1-20 are pending in the above-reference patent application (this "Application").

Claims 1-20 have been rejected in the Office Action.

No claims have been allowed in this Application.

No claims have been amended in this Application.

Claims 1-20 remain in this Application

Reconsideration of the claims of this Application is respectfully requested.

**Specification**

The specification has been amended to correct certain typographical errors. No new matter has been added as a result of the amendments.

**Drawings**

The Applicant has identified and corrected the following errors in the drawings.

- (1) In FIGURE 4 the block in array 400 that is designated A(6,6) should be designated A(6,7).
- (2) In FIGURE 5 the arrow from block 503 to block 511 in the informal drawings was inadvertently deleted from the formal drawings. Because these elements are in the specification and in the original informal drawings no new matter has been added in making the corrections to the drawings.

35 U.S.C. §102(e) Anticipation

In Paragraph 1 on Pages 2-3 of the November 20, 2002 Office Action, the Examiner rejected Claims 1-3, 6-11 and 14-20 under 35 U.S.C. §102(e) as being anticipated by United States Patent Number 5,995,831 issued to *Gulliford, et al.* ("*Gulliford*") in view of United States Patent Number 4,782,517 issued to *Bernardis et al.* ("*Bernardis*"). The Applicant respectfully traverses these rejections.

It is axiomatic that a prior art reference anticipates the claimed invention under 35 U.S.C. §102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. MPEP § 2131; *See, In re King*, 231 U.S.P.Q. 136, 138 (Fed. Cir. 1986) (citing with approval, *Lindemann Maschinenfabrik v. American Hoist and Derrick*, 221 U.S.P.Q. 481, 485 (Fed. Cir. 1984)); *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). Anticipation is only shown where each and every limitation of the claimed invention is found in a single prior art reference. MPEP § 2131; *In re Donohue*, 766 F.2d 531, 534, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985).

With respect to independent Claims 1 and 9, the Examiner has stated:

Gulliford teaches a wireless network comprising: a plurality of base station communicating with a plurality of mobile stations (Gulliford see especially fig 1, col 3, line 34- col 4, line 50) a plurality of RF transceivers capable of transmitting and receiving at least one of voice and data signals with the mobile stations (Gulliford col 1, lines 17-65); and a call control processor capable of controlling the RF transceivers comprising a first state machine capable of performing a call processing task the first state machine capable of storing a plurality of events associated with a call processing task, each of the events operable to cause the first state machine to perform a selected action, wherein the first state machine is capable of communication with a second state machine of the call control processor by

storing at least one event with the second state machine. Note that since state machines at system nodes perform Gulliford's processing, call processing "events" would be associated with other state machines (Gulliford see especially col 13, line 53- col 15, line 20, col 16, lines 15-40). Gulliford lacks a teaching of the state machine having event queues. Bernardis teaches a telephone control system in which state machines use event queues (Bernardis col 23, lines 59-65). It would have been obvious to one of ordinary skill in the art to modify Gulliford to use event queues with the state machine as taught by Bernardis in order to ensure that successive tasks could be stored at the state machine while the present task was being executed. (November 20, 2002 Office Action, Pages 2-3) (Emphasis added).

The language of the Examiner emphasized above indicates that in addition to rejecting Claims 1-3, 6-11 and 14-20 as anticipated under 35 U.S.C. § 102(e), the Examiner is also rejecting Claims 1-3, 6-11 and 14-20 as being obvious under 35 U.S.C. § 103(a).

1. **35 U.S.C. § 102(e) Anticipation**

With respect to any of Claims 1-3, 6-11 and 14-20, a determination of anticipation in accordance with Section 102 with respect to *Gulliford* requires that each feature claimed therein be described in sufficient detail in *Gulliford* to enable one of ordinary skill in the art to make and practice the claimed invention. The Applicant respectfully submits that *Gulliford* fails to disclose, teach or suggest all elements of independent Claims 1, 9 and 17, including, for example, a call control processor having a first state machine with a queue and a second state machine with a queue in which the first state machine is capable of communicating with the second state machine by storing one event in the queue of the second state machine. (Emphasis added).

The Examiner noted that "Gulliford lacks a teaching of the state machine having event queues." The Applicant respectfully submits that the Office Action has failed to establish a prima facie case of anticipation with respect to independent Claims 1, 9 and 17 under § 102 with

respect to *Gulliford* because *Gulliford* fails to identically disclose every element of the Applicant's claimed invention in the cited reference, arranged as they are in Applicant's independent claims (and claims depending therefrom).

The Applicant also respectfully submits that *Bernardis* fails to disclose, teach or suggest all elements of independent Claims 1, 9 and 17, including, for example, a call control processor having a first state machine with a queue and a second state machine with a queue in which the first state machine is capable of communicating with the second state machine by storing one event in the queue of the second state machine. (Emphasis added). Therefore, the Applicant respectfully submits that the Office Action has failed to establish a prima facie case of anticipation with respect to Claims 1, 9 and 17 under § 102 with respect to *Bernardis* because *Bernardis* fails to identically disclose every element of Applicant's claimed invention in the cited reference, arranged as they are in Applicant's independent claims (and claims depending therefrom).

Accordingly, the Applicant respectfully requests the Examiner to withdraw the rejection under § 102(e) of Claims 1-3, 6-11 and 14-20.

**2. 35 U.S.C. § 103(a) Obviousness**

The Examiner has stated that it would have been obvious to one of ordinary skill in the art to modify *Gulliford* to use event queues with the state machine as taught by *Bernardis*. The Applicant respectfully traverses the Examiner's rejection of Claims 1-3, 6-11 and 14-20 as being obvious in view of *Gulliford* and *Bernardis*. The Applicant respectfully requests the

Examiner to withdraw the rejections of the above referenced claims in view of the Applicant's remarks concerning the *Gulliford* reference and the *Bernardis* reference.

During *ex parte* examinations of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142; *In re Fritch*, 972 F.2d 1260, 1262, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984). Only when a *prima facie* case of obviousness is established does the burden shift to the applicant to produce evidence of non-obviousness. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of a patent. *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Grabiak*, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (Fed. Cir. 1985).

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable

expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not be based on an applicant's disclosure. MPEP § 2142.

Applicant respectfully submits that the Patent Office has not established a *prima facie* case of obviousness with respect to the Applicant's invention. The Applicant directs the Examiner's attention to independent Claim 1 which shows novel and unique features:

1. For use in a base station of a wireless network, a call control processor comprising:  
a first state machine capable of performing a call processing task, said first state machine comprising a queue capable of storing a plurality of events associated with said call processing task, each of said plurality of events operable to cause said first state machine to perform a selected action, wherein said first state machine is capable of communicating with a second state machine of said call control processor by storing at least one event in a queue associated with said second state machine. (Emphasis added).

The Applicant reiterates the arguments that the Applicant has previously made with respect to the *Gulliford* reference and to the *Bernardis* reference. There is no teaching, suggestion or even a hint in the *Gulliford* reference or in the *Bernardis* reference concerning the Applicant's novel and unique concept of a call control processor in which a first state machine (that has a queue) communicates with a second state machine (that has a queue) by storing at least one event in the queue of the second state machine. A teaching or suggestion to make the Applicant's invention and a reasonable expectation of success is not found in the *Gulliford* reference or in the *Bernardis*

reference. Therefore, the Applicant's invention is not *prima facie* obvious in view of the *Gulliford* reference and the Bernardis reference.

The Examiner has stated that "Bernardis teaches a telephone control system in which state machines use event queues (Bernardis col 23, lines 59-65). It would have been obvious to one of ordinary skill in the art to modify *Gulliford* to use event queues with the state machine as taught by Bernardis in order to ensure that successive tasks could be stored at the state machine while the present task was being executed." (November 20, 2002 Office Action, Pages 2-3). The Applicant respectfully traverses the Examiner's assertion that it would have been obvious to combine the *Gulliford* reference with the *Bernardis* reference.

As previously described, *Gulliford* does not disclose the concept of a state machine having an event queue. *Bernardis* discloses a wired telephone control system (not a wireless network) in which an interpreter program 12 is executed by a processor 54 to control a "dumb" server switch 34. (*Bernardis*, Column 3, Lines 48-60). Figure 4 of *Bernardis* shows a flow chart of main routine 140 of the interpreter program 12 that is executed by processor 54 to perform telephone services according to transition rules 22. Main routine 140 receives "request events" from a single "request event queue." (*Bernardis*, Figure 4, Column 23, Lines 15-58). Main routine 140 determines (1) which telephone initiated the request event, and (2) whether the request event is valid. If the request event is valid, then main routine 140 performs "state machine processing 156."

*Bernardis* uses only one state machine to perform the state machine processing 156. *Bernardis* does not disclose the use of a second state machine within processor 54. All of the

operations described in *Bernardis* with respect to Figures 5 through 15 are performed by a single state machine. *Bernardis* does not use multiple state machines within a single call control processor.

At the end of the *Bernardis* specification *Bernardis* states “The foregoing discussion has focused on the case of a single server interconnecting a simple grouping of terminating means to the telephone network.” (*Bernardis*, Column 28, Lines 44-46) (Emphasis added). *Bernardis* shows in Figure 16 how the single server configuration of Figure 1 may be connected to a separate identical single server unit. A link 342 connects server switch 34 of the first single server unit and server switch 341 of the second single server unit. In this arrangement processor 54 contains one state machine and processor 541 contains one state machine. In the *Bernardis* arrangement it is necessary for processor 54 and processor 541 to spend additional time communicating through their respective operating systems. The operating system communication that *Bernardis* requires is not required between the first and second state machines of the Applicant’s invention.

*Bernardis* does not disclose, suggest, or even hint at the Applicant’s unique and novel concept of a call control processor in which a first state machine (that has a queue) communicates with a second state machine (that has a queue) by storing at least one event in the queue of the second state machine.

Under the applicable patent law, there must be some teaching, suggestion or motivation to combine the *Gulliford* reference and the *Bernardis* reference. “When a rejection depends on a combination of prior art references, there must be some teaching, or motivation to combine the references.” *In re Rouffet*, 149 F.3d 1350, 1355-56, 47 U.S.P.Q.2d 1453, 1456 (Fed. Cir. 1998).



“It is insufficient to establish obviousness that the separate elements of an invention existed in the prior art, absent some teaching or suggestion, in the prior art, to combine the references.” *Arkie Lures, Inc. v. Gene Larew Tackle, Inc.*, 119 F.3d 953, 957, 43 U.S.P.Q.2d 1294, 1297 (Fed. Cir. 1997). The Applicant respectfully submits that there exists no teaching, suggestion or motivation in the prior art to combine the teachings of the *Gulliford* reference and the teachings of the *Bernardis* reference.

When two references are combined the combination of the references must teach or suggest all the claim limitations. In the present case, even if the *Gulliford* reference were combined with the *Bernardis* reference, the combination of the *Gulliford* reference and the *Bernardis* reference would not teach, suggest or even hint at the Applicant’s invention. This is because, as previously described, the *Bernardis* reference does not teach, suggest, or even hint at the Applicant’s concept of a call control processor in which a first state machine (that has a queue) communicates with a second state machine (that has a queue) by storing at least one event in the queue of the second state machine.

For the reasons set forth above, the Applicant respectfully submits that the rejections of Claims 1-3, 6-11 and 14-20 under 35 U.S.C. §103(a) combining the *Gulliford* reference and the *Bernardis* reference should be withdrawn.

35 U.S.C. § 103(a) Obviousness

In Paragraph 2 on Page 3 of the November 20, 2002 Office Action the Examiner rejected Claims 4, 5, 12 and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Gulliford* in view of *Bernardis* and in view of United States Patent Number 6,308,080 issued to *Burt et al.* ("*Burt*"). For the same reasons set forth above, and contrary to the assertions in the November 20, 2002 Office Action, the *Gulliford* reference and the *Bernardis* reference and the *Burt* reference do not disclose all the elements recited in Claims 4, 5, 12 and 13.

When three references are combined the combination of the references must teach or suggest all the claim limitations. In the present case, even if the *Gulliford* reference were combined with the *Bernardis* reference and with the *Burt* reference, the combination of the *Gulliford* reference and the *Bernardis* reference and the *Burt* reference would not teach, suggest or even hint at the Applicant's invention.

For the reasons set forth above, the Applicant respectfully submits that the rejections of Claims 4, 5, 12 and 13 under 35 U.S.C. § 103(a) combining the *Gulliford* reference and the *Bernardis* reference and the *Burt* reference should be withdrawn.

The Applicant denies any statement, position or averment of the Examiner that is not specifically addressed by the foregoing argument and response. The Applicant reserves the right to submit further arguments in support of his above stated position as well as the right to introduce relevant secondary considerations including long-felt but unresolved needs in the industry, failed attempts by others to invent the invention, and the like, should that become necessary.

SUMMARY

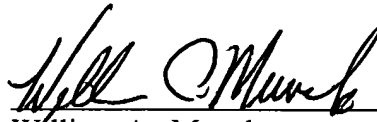
For the reasons given above, the Applicant respectfully requests reconsideration and allowance of pending claims and that this Application be passed to issue. If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this Application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at [wmunck@davismunck.com](mailto:wmunck@davismunck.com). No fees are believed to be necessary for the prosecution of this application. If any fees are necessary, however, please charge the fees to Deposit Account No. 50-0208. No extension of time is believed to be necessary. If an extension of time is needed, however, the extension is requested. Please charge the fee for the extension to Deposit Account No. 50-0208.

Respectfully submitted,

DAVIS MUNCK, P.C.

Date: Feb. 20, 2003

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**APPENDIX A**

**VERSION MARKED SHOWING THE CHANGES MADE**

**IN THE SPECIFICATION**

**Page 2, Line 21 to Page 3, Line 15, has been amended as follows:**

The call control processor executes an application program that performs the basic functions of the base transceiver station, such as call processing, communications protocols, fault management, and the like. Under the control of the application program, the call control processor effectively becomes a plurality of state machines. A state [machines] machine is a basic building block of software systems that follow protocols such as call processing, communications protocols, fault management, and other management operations. A state machine as used in this context is described in terms of the following:

State: A place of rest or no change in the state machine.

Event: A stimulus that could cause the state machine to operate and possibly to change to a new state.

Action: An activity performed by the state machine in response to an event.

**Page 21, Line 9 to Page 22, Line 8, has been amended as follows:**

State machine 310 may retrieve an incoming message from O/S queue 330 in response to the arrival of the incoming message or as part of a scheduled routine. In either event, the task waits on O/S queue 330 until some message is eventually received that triggers the execution of the task (process step 312). Next, state machine 310 translates the message into an event. As mentioned above, an event is a stimulus that may cause state machine [10] 310 to perform some action and possibly to change to a new state. The translated event is placed in internal queue 324 of state machine 310 for subsequent execution by state machine 310 (process step 314). The execution of the translated event also may cause state machine [330] 310 to generate other new events that are placed in internal queue 324 or that are placed in the internal queue of other state machines of call control processor 310. State machine 310 executes the event(s) in internal queue 324 until internal queue 324 is empty (process step 316). Each event that is executed may cause other events to be generated and placed in internal queue 324. Ultimately, internal queue 324 eventually becomes empty and the task again returns to a state of waiting for a new message to arrive in O/S queue 330.

**Page 24, Lines 6-20, has been amended as follows:**

There are a number of methods for performing event translation in each state machine and sending the translated event to the correct target queue. These methods include: array, linked list, and hybrid linked list. A linked list or a fixed size array can be allocated to hold the information needed to do the translation and sending of the events. An array has the advantage of being faster [then] than a linked list, but a decision must be made on how many different tasks can request an event as this will determine the amount of memory to allocate. A linked list has the advantage of only taking the amount of memory needed, but performance is lost in order to manage the linked list. An important factor in deciding between a linked list or an array (or some mixture thereof) is the number of events in the state machine that need to be reused by other tasks.

**Page 26, Lines 8-19, has been amended as follows:**

FIGURE 5 illustrates linked list 500 for performing event translation and directing events to other tasks for use in a finite state machine in a call control processor in accordance with one embodiment of the present invention. Linked list 500 is a list of only the events that need to be shared. These events point to another linked list of other queues and translation events. Some extra overhead is incurred in that every event that comes into a task "walks" the linked list to find out if it is even needed. A first pass optimization may be used to ensure the linked list was sorted so that a determination of whether or not an event was even in the list could be made [with out] without going through the entire list each time.

**Page 26, Line 20 to Page 27, Line 9, has been amended as follows:**

Linked list 500 is equivalent to array 400. For example, elements 501-503, [elements 521-523 and] elements 531-533 and elements 541-542 are equivalent to array elements A(1,1)-A(1,7) in array 400. If Event 1 (element 501) is processed, state machine 310 is directed by element 502 ("Point To") to elements 531 ("Queue 6") and 532 ("As Event 3"), and subsequently to elements 541 ("Queue 5") and 542 ("As Event 2"). Elements 531, 532, 541 and 542 correspond to array elements A(1,2), A(1,3), A(1,4), and A(1,5), respectively. Advantageously, linked list 500, unlike array 400, does not contain entries for Event 2, Event 3, or Event 6, all of which are undefined.

Approved  
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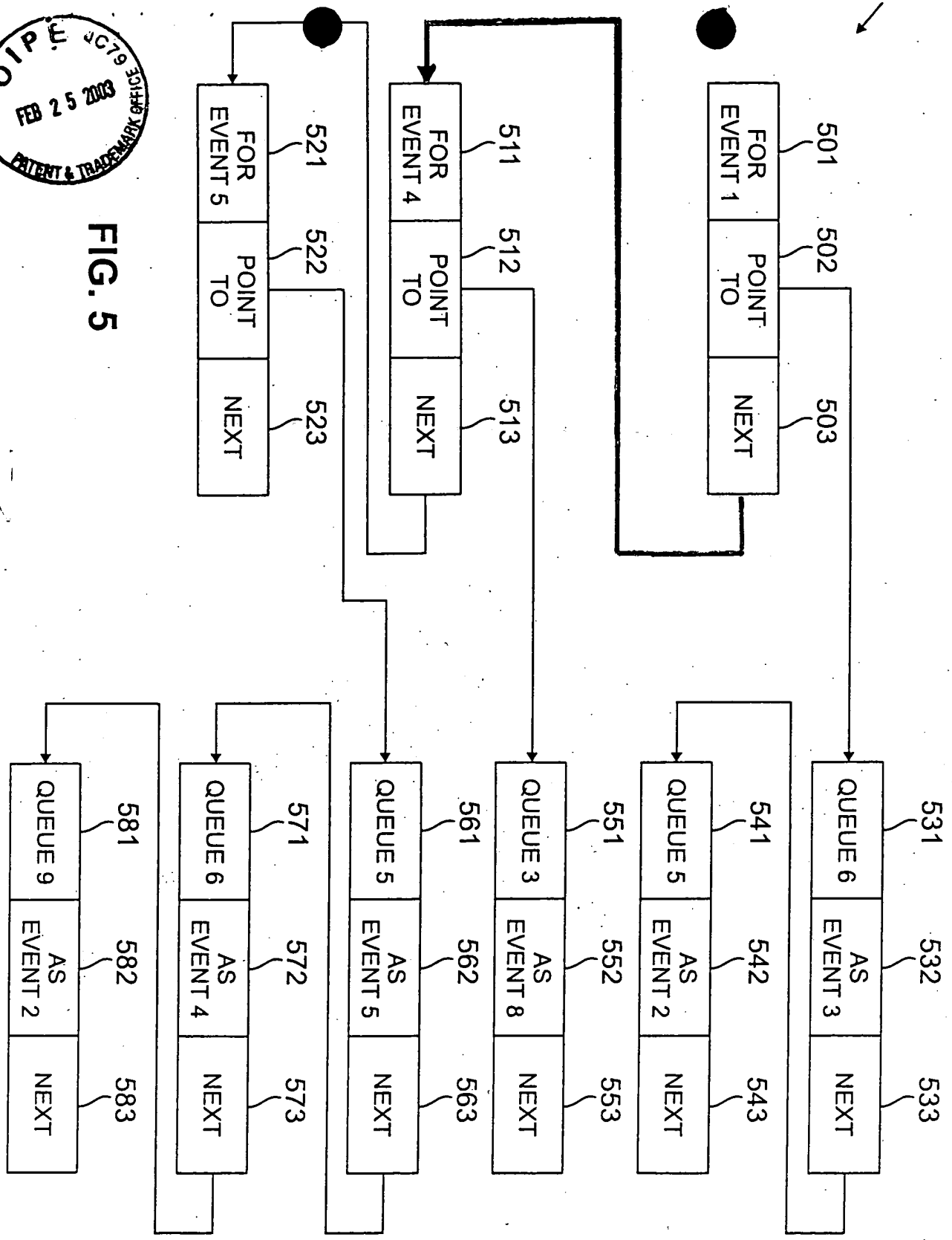


FIG. 5

*Signature*

400



C  
R

	A(1,1)	A(1,2)	A(1,3)	A(1,4)	A(1,5)	A(1,6)	A(1,7)
A(1,1)	FOR EVENT 1	SEND TO QUEUE 6	AS EVENT 3	SEND TO QUEUE 5	AS EVENT 2	SEND TO NO QUEUE	AS NO EVENT
A(2,1)	FOR EVENT 2	SEND TO NO QUEUE	AS NO EVENT	SEND TO NO QUEUE	AS NO EVENT	SEND TO NO QUEUE	AS NO EVENT
A(3,1)	FOR EVENT 3	SEND TO NO QUEUE	AS NO EVENT	SEND TO NO QUEUE	AS NO EVENT	SEND TO NO QUEUE	AS NO EVENT
A(4,1)	FOR EVENT 4	SEND TO QUEUE 3	AS EVENT 8	SEND TO NO QUEUE	AS NO EVENT	SEND TO NO QUEUE	AS NO EVENT
A(5,1)	FOR EVENT 5	SEND TO QUEUE 5	AS EVENT 5	SEND TO QUEUE 6	AS EVENT 4	SEND TO QUEUE 9	AS EVENT 2
A(6,1)	FOR EVENT 6	SEND TO NO QUEUE	AS NO EVENT	SEND TO NO QUEUE	AS NO EVENT	SEND TO NO QUEUE	AS NO EVENT

A(1,7)

7

A(6,6)

A(6,1)

A(6,6)

7

FIG. 4

